Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

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GENERAL INFORMATION:

Name:	Kentucky Energy Hub
Address:	Stearman Lane Mortons Gap, KY 42440
Date application received:	5/15/2008
SIC Code/SIC description:	4922, Natural Gas Transmission
Source ID:	21-107-00159
Agency Interest:	82821
Activity:	APE20080002
Permit:	F-08-030

APPLICATION TYPE/PERMIT ACTIVITY:

[x] Initial issuance	[ ] General permit
[ ] Permit modification	[x] Conditional major
__Administrative	[ ] Title V
__Minor	[ ] Synthetic minor
__Significant	[ ] Operating
[ ] Permit renewal	[x] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance [ ] Compliance schedule included

[x] Compliance certification signed

APPLICABLE REQUIREMENTS LIST:

[ ] NSR	[ ] NSPS	[x] SIP
[ ] PSD	[x] NESHAPS	[ ] Other
[ ] Netted out of PSD/NSR	[x] Not major modification per 401 KAR 51:001, 1(116)(b)	

MISCELLANEOUS:

[ ] Acid rain source

[ ] Source subject to 112(r)

[x] Source applied for federally enforceable emissions cap

[ ] Source provided terms for alternative operating scenarios

[x] Source subject to a MACT standard

[ ] Source requested case-by-case 112(g) or (j) determination

[ ] Application proposes new control technology

[x] Certified by responsible official

[ ] Diagrams or drawings included

[ ] Confidential business information (CBI) submitted in application

[ ] Pollution Prevention Measures

[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Potential (tpy)
PM/PM_{10}	1.54
SO_2	0.102
NOx	35.9
CO	<90
VOC	<90
Single HAPs	
Acetaldehyde	<9
Acrolein	<9
Benzene	<9
Ethybenzene	<9
Formaldehyde	<9
Hexane	<9
Toluene	<9
Xylene	<9
Source wide HAPs	<22.5

SOURCE DESCRIPTION:

Orbit Gas Storage, Inc. (OGS) is seeking to construct and operate a natural gas compressor station called Kentucky Energy Hub (the Project) in Hopkins County, Kentucky. OGS is proposing to convert the existing depleted White Plains Gas Field and connect its pipeline header to the interstate pipeline grid. The White Plains Gas Storage Field is located in the southern part of Hopkins County, near the intersection of the Pennyrile Parkway and the Western Kentucky Parkway at approximately six miles southeast of the City of Madisonville. The Project will contain approximately 5 billion cubic feet of working capacity and up to 100 million standard cubic feet per day (mmscf/d) of injection and withdrawal capacity. It will also consist of the installation of 10 new horizontal

injection/ withdrawal wells on three well pads and a field header system sufficient to support the injection and withdrawal of gas supplies at the new storage facility. The proposed 8.6-mile-long x 16-inch-diameter field header pipeline will connect the storage field to the proposed compressor station. To the west of the compressor station, the 24-inch-diameter OGS Pipeline will continue for approximately 13.3 miles to an interconnect with the existing ANR Pipeline Company (ANR) pipeline system near Rabbit Ridge, Kentucky.

The compressor station will include three (3) reciprocating compressor units each driven by identical Caterpillar G3606 natural gas-fired internal combustion engines rated at 1,775 brake horsepower (bhp). Each engine will be equipped with an integral silencer/ oxidation catalyst to minimize emissions of carbon monoxide (CO) and hydrocarbons such as formaldehyde. The facility will also have a 250-kilowatt auxiliary generator using a natural gas-fired reciprocating engine. The auxiliary unit will only be operated intermittently for testing, but permitted to operate for up to 500 hours per year. Finally, a glycol gas dehydrator and glycol regenerator heater will be used to remove water vapor from the natural gas prior to transport.

On May 15, 2008 the Division for Air Quality (Division) received a permit application from OGS for the proposed operation of the Project scheduled for April 2009. The application was for the construction/operating authority of a major source to be processed under 401 KAR 52:020. After reviewing and completing the application on September 24, 2008, the source decided to become a minor source with a conditional major permit of federally enforceable limits under 401 KAR 52:030. The source will have maximum uncontrolled emissions of approximately 129 tons per year of carbon monoxide (CO). With the oxidation catalysts on the compressor engines, the source will be able to achieve CO limits below major source thresholds. Even though potential emissions for volatile organic compounds (VOC) and single hazardous air pollutants (HAP) will be below major source thresholds, the source also requested federally enforceable limits for VOC and single and combined HAPs.

EMISSIONS AND OPERATING CAPS DESCRIPTIONS:

OGS has applied to operate the Project under federally enforceable permit limits of less than 90 tons per year each of CO and VOC, less than 9 tons per year of any single HAP and less than 22.5 tons per year of combined HAPs.

OPERATIONAL FLEXIBILITY:

The source is not restricted as to hours of operation or quantity of product produced, while remaining within the caps above.